RINGERS

F TYPE

This index lists the information that forms a part of, or supplements this specification, and indicates the authorized issues thereof.

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SUPL SPECS													
BSRS-350.001	c												General Requirements
BSRS-362.142	c												Networks - 425A, B, C; 495A; and 498A

c—Information in accordance with that currently authorized.

* Changes are extensive therefore precludes the use of marginal arrows.

For WECO Use Only:
File in Handbooks:
RS-560 BK 3 Tab B
IP 4 RS560K

1. GENERAL

1.01 This specification covers the requirements for the recovery of F1A Ringers.

1.02 The applicable requirements of the specifications listed on the index as SUPL SPECS shall be followed in the recovery of this apparatus in addition to the requirements specified herein.

2. MECHANICAL

2.01 Exterior surfaces of the base may be hand cleaned using KS-14427 Cleaning Emulsion. Care shall be taken to prevent the cleaning emulsion from entering the interior of the base assembly.

2.02 The ringer shall be cleaned. Particular attention shall be given to the air gaps between the inner and outer pole piece faces and the armature, and between the permanent magnet and the armature.

NOTE 1: When cleaning the gap between the outer pole piece and the armature, care shall be taken to prevent distortion of the thin reed, which is part of the armature hinge lying between the armature and the outer pole piece.

NOTE 2: Care shall be taken to prevent damage to the interrupter switch.

2.03 Scratched, chipped, and bare areas on the sides of the base shall be touched up or the surface refinished with federal gray lacquer, 657A.

2.04 The ringer coil leads, subscriber switch (chime and ring selector) leads, and interrupter switch leads shall be connected in accordance with Table A.

TABLE A

Connections on 498A Network		
Component	Lead	Terminal
Ringer Coil	Red	7
	Black	4
	Slate	2
	Slate-Red	2
Interrupter Switch	Yellow	D
Subscriber Switch	Slate	A
	Black	E
Network Straps	Red	A-7
	Green	B-6
	Blue	G-4

2.05 The magnet shall be held securely in place by the tabs on the frame and in such a manner that one end of the magnet is in contact with the inner pole piece. Cracks in the formed magnet tab shall be permissible provided they do not exceed 50% of the length and 50% of the depth of the tab.

2.06 The coil cover shall not be badly damaged. Slight tears, small holes, and frayed edges shall be repaired by the application of nonflammable cellulose acetate cement, or Nitrocellulose Pyroxylin #1 cement. Slight discolorations due to causes other than corrosion are permissible.

2.06A All ringers with stick wound coils shall be equipped with a RS-9164 Clip.

2.07 If a coil lead is replaced, the insulation shall extend through the eyelet. The free-skinned end shall be soldered to that portion of the twin eyelet where the lead-out wires of the coil winding are attached.

CAUTION: Care shall be exercised in the soldering operation to avoid damage to the coil leads.

2.08 With the chime and ring selector handle in the center position or in the left-hand position, the armature travel at the stop pin shall be a minimum of 0.030 inch and adjusted to meet this requirement.

2.09 Omitted on Issue 6 of this page.

2.10 With the chime and ring selector handle in the low volume position, the clapper rod shall strike entirely within the plane of the rack stud.

2.11 The clapper shall strike within 1/16-inch above the bottom edge of the gongs. The clapper rod shall be adjusted to meet this requirement.

2.12 The chime and ring selector handle shall operate to switch the signal from chime to loud to low with definite detent action at each position. The handle shall not touch the gongs either in the chime or low ring position.

2.13 The P-12E805 stop-bar bracket shall be present on the ringers. When the bracket is assembled, the P-285080 lockwashers shall be omitted and the P-146545 screws replaced with P-12E852 screws.

2.14 With the biasing spring in the high-tension notch, the handle in the center or left-hand position, and the armature in the nonoperate position, there shall be a minimum clearance of 0.015 inch and a maximum clearance of 0.040 inch between the clapper and the 26E (left-hand) gong. With the armature in the operate position, there shall be a minimum clearance of 0.015 inch and a maximum clearance of 0.040 inch between the clapper and the 26C (right-hand) gong.

2.15 The P-11E851 clamp need not be present on the ringer plate assembly between the network and the outer pole piece. The bridge across the cord slot may be missing, provided the edges of the slot are smooth.

3. TESTS AND ADJUSTMENTS

3.01 The ringer shall be tested (with the base resting on horizontal surface) by applying combinations of voltage, series resistance, biasing spring position, and chime and ring selector handle position as shown in Table B. The test connections shall be made at network terminals 4 and 6. The sequence of operations shall be (a) through (f).

TABLE B

Function	Requirement	AC(20 cps) Voltage ± 2%	Series Res(Ohms)	Biasing Spring Tension Notch	Selector Handle Position
Operate	(a)	43	760	Low	Center
Stick	(b)	90	-	*Low or Med	Left
Nontap	(c)	39	440	High	Center
Ring	(d)	70	-	High	Center to Right
Chime	(e)	70	-	High	Left
	(f)	70	-	*Low or Med	Left

*Low for two-position biasing spring bracket; medium for three-position biasing spring bracket.

(a) The ringer shall start and continue to operate with the clapper striking both gongs. Irregularities and interruptions in striking both gongs are not objectionable, and the sound volume is not a requirement.

(b) The armature shall restore to the nonoperate position after having been operated and held for two seconds. This test shall be made twice.

(c) The clapper shall not tap either gong. Fluttering or vibration of the clapper may be disregarded.

(d) The ringer shall operate in the following manner:

  (1) With the chime and ring selector handle in the center position, the ring shall start and the volume shall decrease when the selector handle is moved to the right-hand position.

  (2) With the chime and ring selector handle in the right-hand position, only a single gong ring shall be obtained. Slight tapping of the 26C (right-hand) gong is permissible. The stud on the rack shall be adjusted to meet this requirement.

(e) The clapper shall operate to strike the 26C (right-hand) gong when voltage is applied and release to strike the 26D (left-hand) gong when voltage is removed. The clapper shall produce satisfactory signals on both gongs as judged by ear. Chatter (double chime) is permissible.

(f) The clapper shall operate to strike the 26C (right-hand) gong when voltage is applied and release to strike the 26D (left-hand) gong when voltage is removed. The ringer shall be cycled five times, chatter (double chime) on three of five strokes rejects the unit. If chatter occurs on two of five strokes, recycle the ringer five times and accept if chatter occurs on no more than one of the five cycles.

NOTES:

1. The series resistance values specified include the internal impedance of the voltage source.
2. The total waveform distortion of the source voltage shall not exceed 3 per cent.

3.02 If a magnet or armature and clapper assembly is replaced, the magnet shall be fully magnetized and stabilized by demagnetization to a condition which will permit a biasing spring adjustment to satisfy requirements (a) through (f) of Table B.

3.03 The interrupter switch contacts shall make and break and shall have follow. With the switch in the nonoperate position, the contacts shall be open.

3.04 The ringer shall be issued with the biasing spring in the high tension notch.

4. MARKING AND PACKING

4.01 A GN-2407 Bell Chime Booklet shall be furnished as a separate item with each ringer.